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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/248,382	02/10/99	MUKHERJEE R	U012104-2

000140
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HM22/0606

EXAMINER	
MOEZIE,F	
ART UNIT	**PAPER NUMBER**
1653	14

DATE MAILED: 06/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/248,382	Mukherjee
Examiner	**Art Unit**
F. MOEZIE	1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *3/7/01 and 3/19/01* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-4 and 32-36* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-4 and 32-36* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. *08/727,679* .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *9,13*
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

STATUS OF CLAIMS

Claims 1-4 and 32-36 are pending prosecution in this Office action.

Claims 1-31 were originally filed. In response to the Restriction Requirements, Applicant elected Group 1 Invention, claims 1-4, without traverse. Claims 5-31 have been canceled. New claims 32-36, drawn to a method for treating various cancers, have been added. Hence, claims 1-4 and the newly added claims 32-36 are treated on their merits in this Office action.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

INFORMATION DISCLOSURE STATEMENT

The IDS and Form PTO-1449 and the references cited therein, March 19, 2001, paper no. 13, have been considered and made of record.

OBJECTION - SPECIFICATION

Specification is objected to regarding the reference made to "in our previous studies" without showing how the "previous studies" were carried out and the impact of these studies regarding the instant disclosure and the claims. See, The Specification at page 2, line 31; page 3, line 25; page 4, lines 14 and 31 and page 5, line 10, for example.

Moreover, the definition for Dxg includes Aib, among others, according to the specification at page 3, lines 5+. Hence, the term "Dxg or Aib" is not consistent with the cited definition since Aib is included in the group called Dxg (page 4, line 18 and page 5, line 3, for example). Substitution of wherein "Dxg is Aib" for "Dxg **or** Aib" will overcome this ground of objection.

For guidance, see US Patent No. 5,565,424, wherein claims drawn to a VIP antagonist are defined fully with regard to the parameters cited therein in the claims in addition to their citation in the specification and US Patent No.5,217,955 regarding the content of the entire application.

Claims 1-4 and the newly added claims 32-36 are rejected as being based on a specification which is found objectionable.

REJECTION - 35 U.S.C. 112, FIRST AND SECOND PARAGRAPHS

Claims 1-4 and 32-36 are rejected under **35 U.S.C. 112, first paragraph**, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification is totally devoid of **how to make and use** for the "novel" peptides as claimed Furthermore, there is no working examples, data, or evidence which would indicate that: a) how the "novel"peptides were prepared and b) how said "novel" peptides were used in a pharmaceutical composition and c) the use of a therapeutically effective amount of the

"novel" peptides in treating cancer or slowing tumor regression in an art recognized and accepted model (for use in a patient) is not evidenced in the instant application.

Note: The synthesis of alpha, alpha-disubstituted glycine or amino acids are difficult, as evidenced by Spatola in CHEMISTRY AND BIOCHEMISTRY OF AMINO ACIDS, PEPTIDES, AND PROTEINS, CHAPTER 5., PEPTIDE BACKBONE MODIFICATIONS, at page 291.

It is the examiner's position that one of skill in the art would not be able to make the "novel" compounds and use said "novel" compounds in a method of treating a patient, without undue experimentation , particularly in view of the lack of teachings, guidance or examples in the specification. See In re Wands, 858 F. 2d 731, 737, 8 USPQ2d 1400, 1404, (Fed. Cir. 1998), wherein 8 factors are to be met.

1) The quantity of experimentation necessary - either for making or using the "novel" compounds - the quantity of experimentation is undue in view of the lack of teachings, guidance or examples.

2) Amount of guidance - No guidance is given either for how to make or how to use the "novel" peptides,.

3) Working examples - No working examples are given either for making or using the "novel" peptides.

4) Nature of the Invention - The claimed peptides are "novel" and there is no description for making them, nor is there any guidance as to how to use the claimed "novel" peptides.

5) State of the prior art - The "novel" peptides are difficult to make as evidenced by Spotola cited above and use of the "novel" peptides regarding the effective amount to use and the protocol for using the peptides in treating cancer remains unpredictable.

6) The relative skill of those in the art - The "novel" peptides are difficult to make as admitted by Spatola at page 291, cited above.

7) The predictability or unpredictability - In contrast to claim 1, wherein the modification may be effective at any position as claimed, Spatola teaches that the position of the modification matters regarding the enzymatic degradation activities of the modified peptides, see page 291.

8) The breath of the claims - The instant claims are too broad in view of the lack of any teachings, guidance or examples as to how to make and use the "novel"peptides as claimed.

In view of the above, a person of skill in the art would not be able to practice the instant invention without undue experimentation.

Claims 1-4 and 32-36 are rejected under **35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite and incomplete because they fail to define "Dxg" in the claims.

In claim 1, the designation "SEQ ID NO:1" is missing from the claim.

REJECTION - 35 U.S.C. 103 (a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 32-36 are rejected under **35 U.S.C. 103(a)** as being unpatentable over Gozes et al in US Patent No. 5,217,953 issued June 8, 1993 in view of Spatola in CHEMISTRY AND BIOCHEMISTRY OF AMINO ACIDS, PEPTIDES AND PROTEINS, CHAPTER 5, page 271, 1983.

The primary reference teaches that VIP antagonists are known and used to treat cancer. The amino acid sequence of claim 1 (SEQ ID NO 1) and use thereof is also taught by this

reference . See the entire document, especially col. 2, line 66 to column 3, line 38; col. 5, lines 46+ and SEQ ID NO:3 at col. 8, lines 47-48.

However, the primary reference does not teach the modified peptides as claimed.

The secondary reference teaches that the modified peptides exhibit resistance toward enzyme degradation. See, page 291+ of Spatola. Spatola further teaches how the various modifications in a peptide sequence alter the properties of the thus modified resulting peptides, such as substitution of a D amino acid for an L amino acid in a peptide sequence. See the entire CHAPTER 5 regarding the various modifications and their effects on the resulting modified peptides.

One of ordinary skill in the art at the time the invention was made would have been motivated to modify the peptides of the primary reference according to the secondary reference's teachings to obtain stability and enzyme degradation resistance (to survive passage through the gut) at the time the invention was made.

RESPONSE TO AMENDMENTS AND REMARKS

Applicant's Amendments and Remarks filed March 7, 2001, paper no. 12, have been considered.

The rejection of the claims 1-4 under **35 U.S.C. 112, first paragraph**, is maintained for the reasons cited earlier and the additional reasons cited herein above. This ground of rejection has been extended to encompass the newly added claims 32-36.

Applicants' remarks reading the "**well known** in the cancer art that the National Cancer Institute has established an *in-vitro* screening protocol --- **One test** that is used is cytotoxicity against the cell line. Based on these results **a drug may be selected for further testing** including *in-vivo* testing in small animals" have been considered. Applicant has failed to provide a copy of the **well known document** for consideration by the Examiner and to complete the record. Moreover, what are **the other tests** required by the same authority? At most, this is an admission that the claimed "novel" peptides **may be selected for further testing** - this hardly warrants claims to methods of using the "novel" peptides in treating a patient regarding various cancers.

Finally, Applicant's conclusions are entirely unsupported regarding: "This data would enable one skilled in the art to make and use the invention of claims 3 and 4 and newly added claims 32-36" (page 5 of paper no. 12) due to the lack of evidence and the unknown and unspecified applicants' "previous studies" as cited in the specification.

The rejection of the claims under **35 U.S.C. 112, second paragraph**, is maintained for the reasons cited earlier. The claims would have to be complete to avoid indefiniteness and confusion with regard to the claims metes and bonds.

CONCLUSION

No claim is allowed.

Any inquiry concerning this communication should be directed to F.T. Moezie at telephone number (703) 305-4508 or Mr. LOW (SPE) at 308-2923..

F. T. MOEZIE, Ph.D.
PRIMARY EXAMINER
ART UNIT 1653